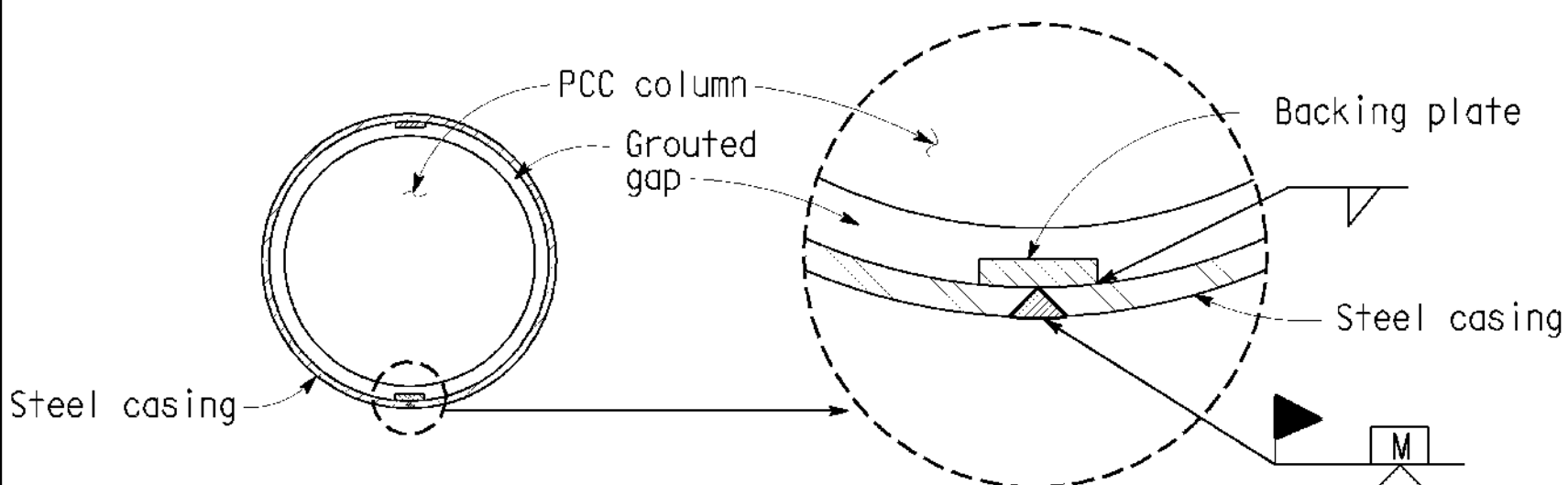
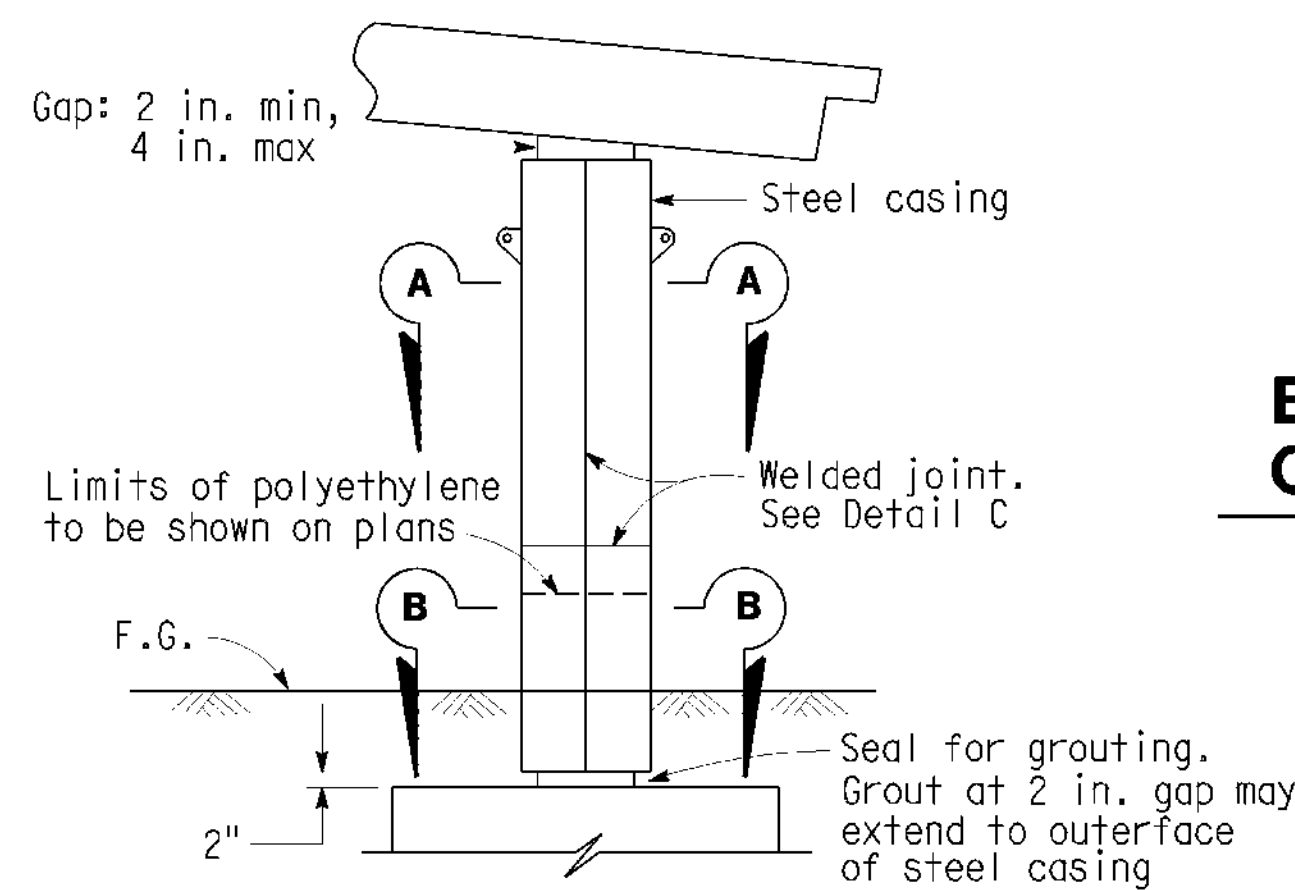


CLASS F COLUMN

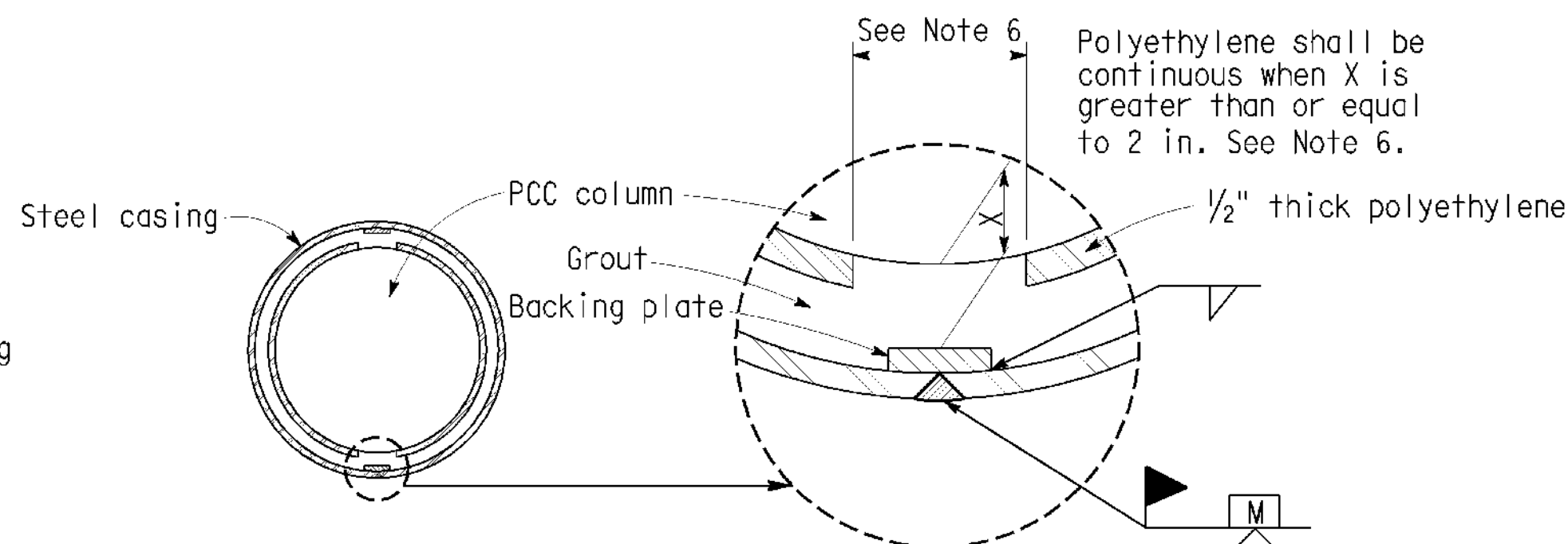


SECTION A-A
ROUND COLUMN

Minimum inside diameter of steel casing = 1 1/2" greater than nominal column diameter for Class F and 2 1/2" for Class P/F

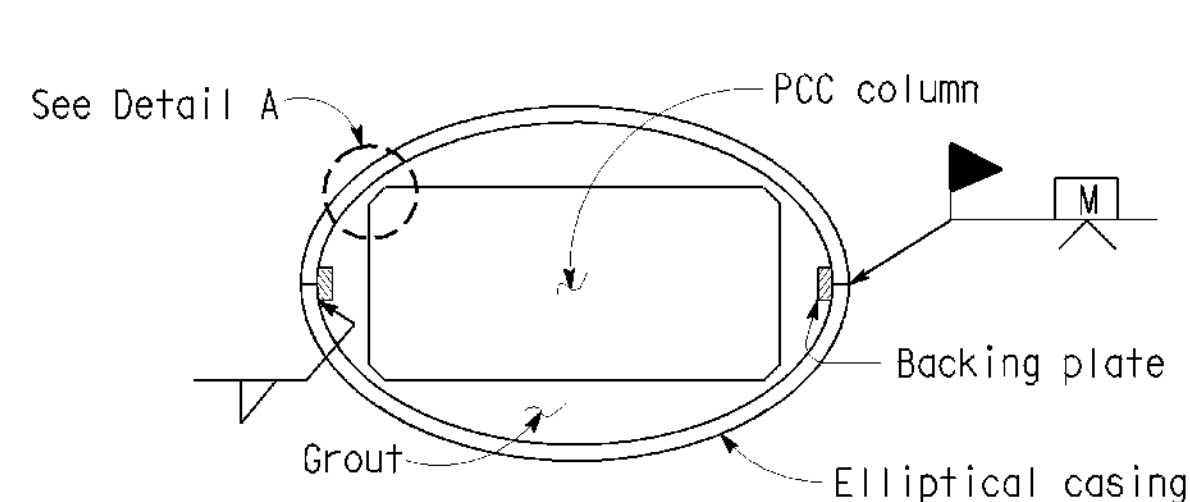


CLASS P/F COLUMN

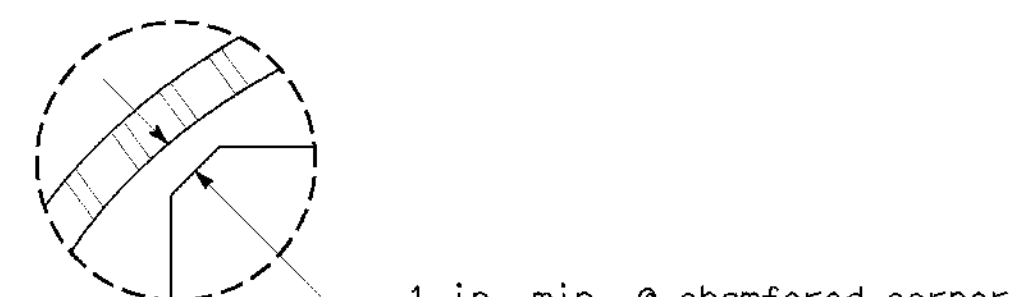


SECTION B-B
ROUND COLUMN

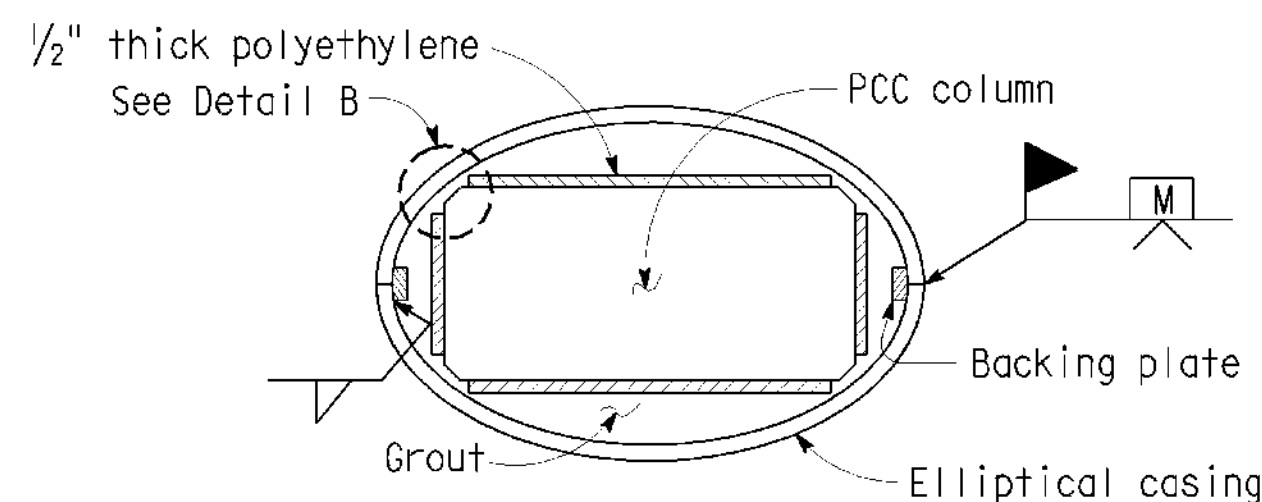
Minimum inside diameter of steel casing = 2 1/2" greater than nominal column diameter for Class P/F.



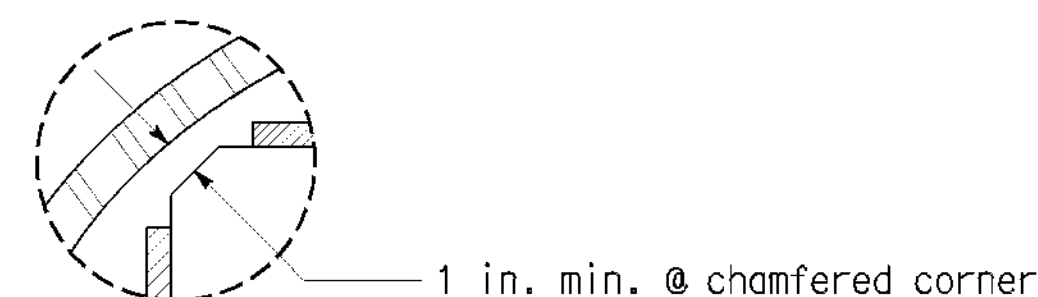
SECTION A-A
RECTANGULAR COLUMN



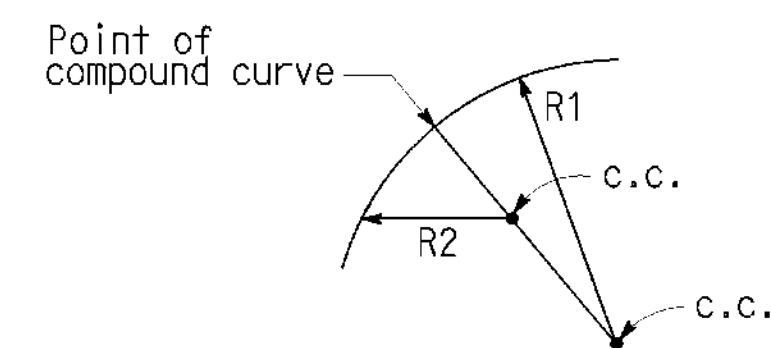
DETAIL A



SECTION B-B
RECTANGULAR COLUMN

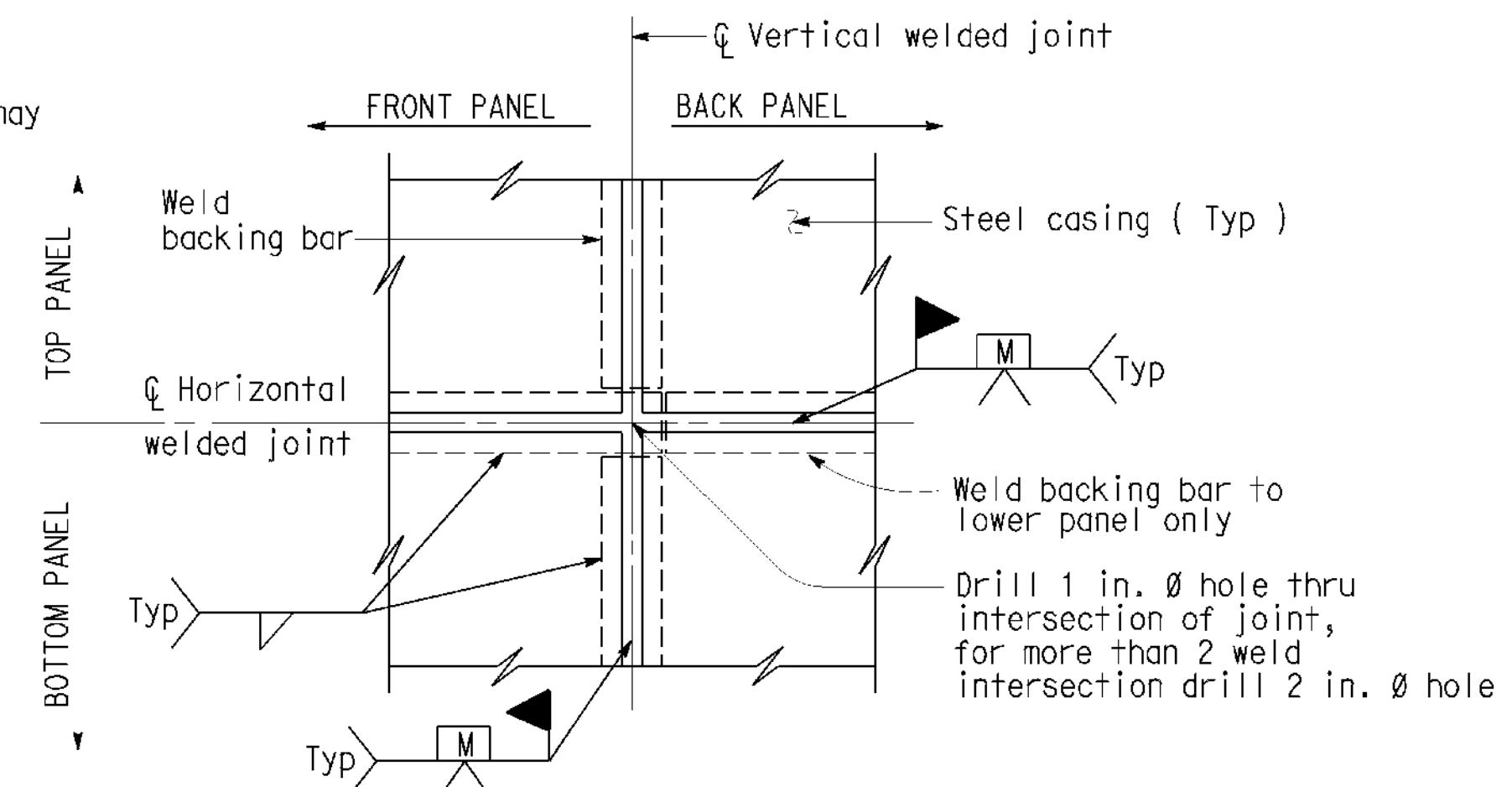


DETAIL B



ELLIPTICAL CASING DETAIL
CLASS F AND P/F COLUMN

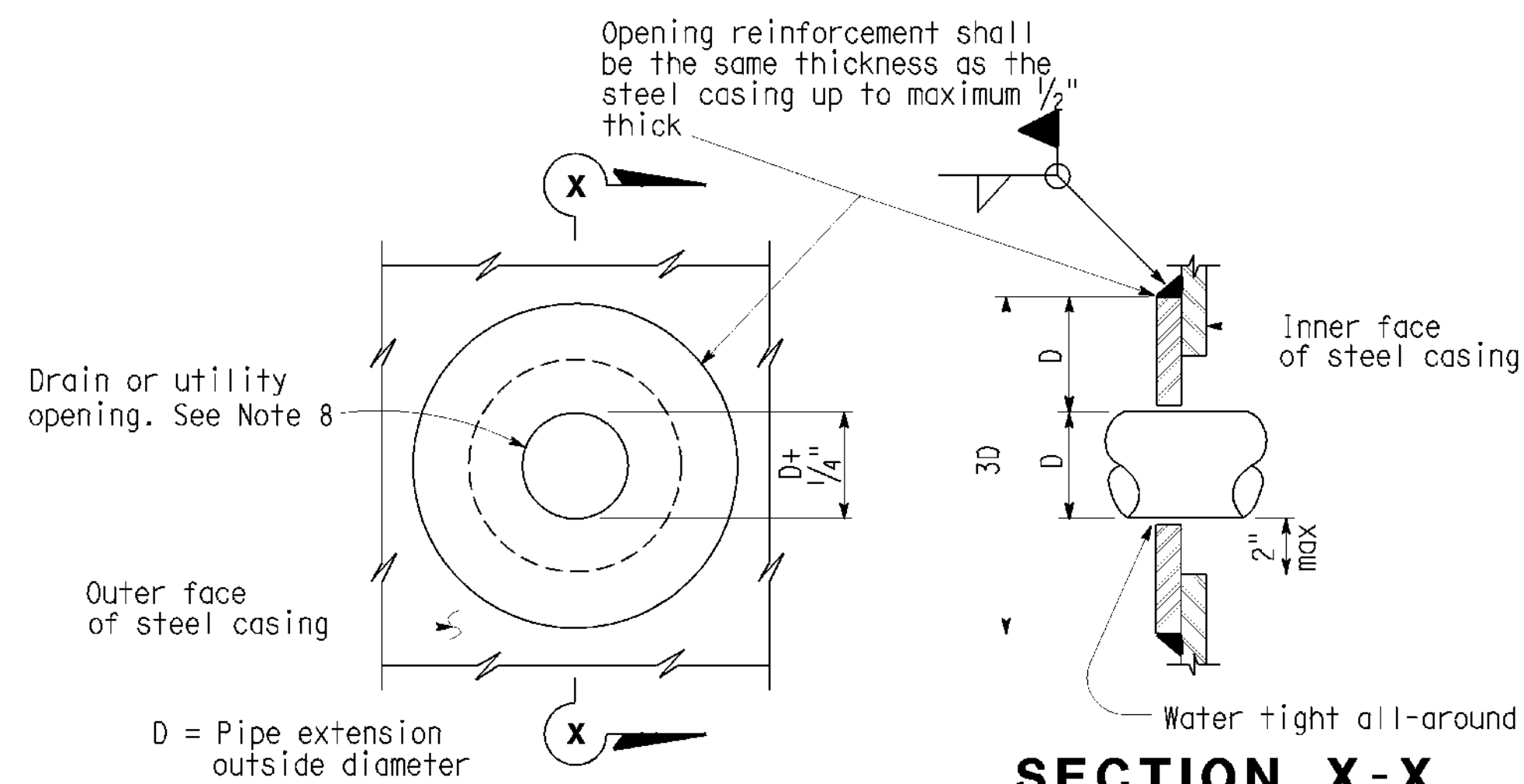
Radii R1 and R2 to be determined by the Contractor subject to the approval of the Engineer



(TWO WELDED INTERSECTION JOINT)
DETAIL C

NOTES:

- For varying thickness steel casing inside surface to remain flush. Minimum clearance from PCC column to casing shall be maintained.
- Appropriate injection nozzles to be provided on casing, but removed and ground flush following completion of grouting operation.
- All voids between steel casing and polyethylene (Class P/F), and steel casing and PCC column (Class F) to be filled with grout.
- Location and number of vertical and horizontal welds to be determined by the Contractor, and subject to the approval of the Engineer. The location of casing welds are for illustration. No skip welds allowed.
- Circular steel casing to be 1/4" thick minimum for casings with a 4'-4" diameter or less; all other steel casings to be 3/8" thick unless noted differently on contract plans. Backing plates to be the same thickness as casing up to maximum 1/2" thick.
- Contractor shall remove 12 in. polyethylene strip behind backing plate if backing plate is closer than 1 1/2" from polyethylene.
- Waterproof limits for steel casings. Typical for Classe "F" and "P/F".
- For pipe extensions, opening shall be no more than 1/4" greater than the pipe extension diameter. For other openings, the opening diameter to be determined by the Engineer.



SECTION X-X

CASING OPENING

Note: Opening reinforcement required for drain or utility openings larger than 4 in.

NO SCALE

STANDARD DRAWING					
RELEASE DATE	12-04-06	DESIGN BY	BRIAN MARONEY	CHECKED	R.J. ZELINSKI
FILE NO.	xs7-010	DETAILS BY	R.YEE	CHECKED	PAT HIPLEY
		SUBMITTED BY	R.J. ZELINSKI	DRAWING DATE	8/93

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

STATE OF
CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF
ENGINEERING SERVICES

BRIDGE NO.
KILOMETER POST

STEEL COLUMN CASINGS
SEISMIC RETROFIT

CU
EA

DISREGARD PRINTS BEARING
EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 2F

xs7-010.dgn